



UNITED STATES PATENT AND TRADEMARK OFFICE

MW
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,145	12/14/2001	Bjorn Liedtke	AZ.2993	7042

7590 04/15/2004

Robert W Becker & Associates
707 Highway 66 East
Tijeras, NM 87059

EXAMINER

CHAN, SING P

ART UNIT	PAPER NUMBER
----------	--------------

1734

DATE MAILED: 04/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/018,145	Applicant(s) LIEDTKE ET AL.	
	Examiner Sing P Chan	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 23-45 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 23-28 and 30-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinobu (JP 64-052238) in view of Takahashi et al (U.S. 3,892,415).

Regarding claims 23 and 24, Shinobu discloses an apparatus for bonding two substrates. The apparatus includes a centering or guiding shaft with leaf springs, i.e. noses, projecting from the hollow part of the shaft, which is adapted to guide the substrates with though their inner holes, spaced apart the substrates, and allow the substrates to glide downward toward each other to effect bonding of the two substrates. (See English abstract of JP 64-052238 and as translated by Translator) Shinobu does not disclose the noses have linear outer surfaces, which edges of the inner holes of the substrates can glide downward during movement of said noses toward pin. However, one in the art would appreciate providing any mechanism, which allow the substrate to be supported until release and includes any outer surface configuration such as curve surface or a linear outer surface for the noses to allow any substrate to glide downward during movement of the noses and is well known and conventional as shown for example by Takahashi et al. Takahashi et al discloses record changer. The record changer includes three upper claws, i.e. noses, with linear outer surfaces, which edges

Art Unit: 1734

of the inner holes of the record can glide downward during movement of the noses toward the spindle. (Col 6, lines 5-51)

It would have been obvious to one skilled in the art at the time the invention was made to provide a mechanism with a linear outer surface for the noses as disclosed by Takahashi et al in the apparatus of Shinobu to provide a simple and inexpensive mechanism to easily position the substrates properly without damaging the substrates.

Regarding claim 25, Shinobu discloses the guide shaft is a centering pin. (See English abstract of JP 64-052238 and as translated by translator and Figures 1 and 5)

Regarding claims 26 and 44, Shinobu discloses up to four noses are provided for the guide shaft. (Translation provided by translator and Figures 3 and 4)

Regarding claims 27 and 28, Shinobu as modified above is silent as to a spring is used to biasing the noses in an outward direction. However, using spring to bias the noses in an outward direction is well known and conventional as shown for example by Takahashi et al. Takahashi et al discloses the noses are forced out of the shaft by a spring pushing downward. (Col 6, lines 32-40)

It would have been obvious to one skilled in the art at the time the invention was made to provide a spring to provide a biasing force to push the noses in an outward direction from the shaft as disclosed by Takahashi et al in the apparatus of Shinobu to provide a simple and inexpensive mechanism to guide substrates to a proper position with the spacing between the substrates until a substrate is release to joint with the previous substrate.

Regarding claims 30 and 32, Shinobu discloses a pushing shaft to actuate movement of the noses. (See English abstract of JP 64-052238)

Regarding claim 31, Shinobu as modified above is silent as to the noses are lever arms. However, providing noses as lever arms are well known and conventional as shown for example by Takahashi et al. Takahashi et al discloses the noses are lever arms. (Figure 8)

It would have been obvious to one skilled in the art at the time the invention was made to provide noses as lever arms as disclosed by Takahashi et al in the apparatus of Shinobu to provide a simple and readily available mechanism for holding and supporting the substrates prior to release and jointing.

Regarding claim 33, Shinobu discloses the pushing shaft includes a conical shaped recess. (See English abstract of JP 64-052238)

Regarding claim 34, Shinobu as modified above does not disclose the ends of the noses that face the actuating element are rounded off. However, providing noses that face the actuating element with the end rounded off is well known and conventional as shown for example by Takahashi et al. Takahashi et al discloses the ends of the noses (95) that face the actuating element are rounded off. (Figure 8)

It would have been obvious to one skilled in the art at the time the invention was made to provide noses with ends rounded off that face the actuating element as disclosed by Takahashi et al in the apparatus of Shinobu to provide a simple and readily available mechanism for holding and supporting the substrates prior to release and jointing.

Regarding claim 35, Shinobu as modified above is silent as to providing means to vary the biasing of the noses. However, Takahashi et al discloses providing a conical cam (93), which is a means to providing a biasing the noses and one in the art reading Shinobu and Takahashi et al would appreciate the conical cam would provide varying biasing to the noses as the noses approach the cam at various position to allow the noses to be extended outside the shaft at equal position. (Figure 8) It would be logically for one in the art to provide a means such as a conical cam to provide varying biasing to the noses to allow noses to be positioned outside the shaft or pin at the needed position to hold a substrate or substrates.

It would obvious to one skilled in the art at the time the invention was made to logically provide a means such as a conical cam to biasing the noses in the apparatus of Shinobu to allow the noses to be positioned in the proper position to hold and retain the substrate or substrates until release.

Regarding claims 36 and 37, Shinobu as modified above is silent as to a tapered element is disposed in the pin movable counter to a biasing means, a spring, and is disposed between the tapered element and noses. Takahashi et al discloses upper claw holder (94), i.e. a tapered element, movable counter to a biasing spring. (Col 6, lines 32-40 and Figure 8)

It would have been obvious to one skilled in the art at the time the invention was made to provide a tapered element such as a upper claw holder movable counter to a biasing means and a spring as a biasing means as disclosed by Takahashi et al in the

Art Unit: 1734

apparatus of Shinobu to allow the tapered element to move and control the movement of the noses to properly release the substrate or substrates at the proper time.

Regarding claims 38 and 39, Shinobu as modified above is silent as to the biasing element is disposed between the tapered element and the noses. Takahashi et al discloses a conical cam (93), which is a functional equivalent of a biasing element disposed between tapered element and the noses for biasing the noses in an outwardly direction as the tapered element is moved toward the conical cam. (Col 6, lines 32-40 and Figure 8)

It would have been obvious to one skilled in the art at the time the invention was made to provide any means such as conical cam (93), for biasing the noses in an outward direction as disclosed by Takahashi et al in the apparatus of Shinobu to providing a simple, reliable, and readily available means for biasing the noses.

Regarding claims 40-43, Shinobu as modified above is silent as a tensioning element, i.e. a spring ring disposed on the inner periphery of the noses, is provided for drawing the noses inwardly as the outwardly biasing force is reduced. Takahashi et al discloses a spring ring is disposed on the inner periphery of the noses and once a shaft (85) is forced against the claw holder (94), i.e. tapered element, the noses are raised against the spring and away from the conical cam, which provide a outward biasing force and the force provided by the spring on the spring ring pushes on one of the corner of the noses to provide a force, i.e. a tension force, to direct the noses inward into the shaft. (Col 8, lines 53-65 and Figure 8)

It would have been obvious to one skilled in the art at the time the invention was made to provide a tensioning element, i.e. a spring ring disposed on the inner periphery of the noses, to provided for drawing the noses inwardly as the outwardly biasing force is reduced as disclosed by Takahashi et al in the apparatus of Shinobu to provide a means to reliably drawing the noses into the shaft to hold the substrate or substrates until release.

3. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinobu (JP 64-052238) in view of Takahashi et al (U.S. 3,892,415) as applied to claim 23 above, and further in view of Rack et al (U.S. 6,179,031).

Shinobu as modified above is silent as to a means for exerting pressure upon the substrates for effecting movement of the noses toward the pin or shaft. Rack et al discloses a method for adhering flat plastic substrates. The method includes pressing means, grasping apparatus (8) for exerting pressure on the substrate. (Col 4, lines 25-31) The combination of the pushing shaft (17) of Shinobu and the pressing of means of Rack et al would effecting the movement of the noses toward the pin.

It would have been obvious to one skilled in the art at the time the invention was made to provide a pressing means such as the grasping apparatus, as disclosed by Rack et al in the apparatus of Shinobu which would effecting the movement of the noses toward the shaft to provide a simple and readily available means to press the substrates and removing any excess adhesive.

4. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinobu (JP 64-052238) in view of Mazzeo (U.S. 2,705,968).

Shinobu discloses an apparatus for bonding two substrates. The apparatus includes a centering or guiding shaft with leaf springs, i.e. noses, projecting from the hollow part of the shaft, which is adapted to guide the substrates with their inner holes, spaced apart the substrates, and allow the substrates to glide downward toward each other to effect bonding of the two substrates. (See English abstract of JP 64-052238 and as translated by Translator) Shinobu does not disclose the noses have linear outer surfaces, which edges of the inner holes of the substrates can glide downward during movement of said noses toward pin. However, one in the art would appreciate any mechanism to allow the noses to move toward the pin or shaft during movement of the substrate along the pin or shaft and such mechanism is well known and conventional as shown for example by Mazzeo. Mazzeo discloses an umbrella. The umbrella includes a lock spring mechanism, which allows the sleeve or substrate with an inner hole to glide in one direction and move the mechanism toward the shaft or pin. (Col 1, line 70 to Col 2, line 40)

It would have been obvious to one skilled in the art at the time the invention was made to provide a mechanism or mechanisms wherein the noses move toward the pin or shaft during the downward movement of the substrate along the pin or shaft as disclosed by Mazzeo in the method of Shinobu to provide a simple and easy mechanism to align and release the upper substrate onto the lower substrate

Response to Arguments

5. Applicant's arguments filed February 4, 2004 have been fully considered but they are not persuasive.

Art Unit: 1734

6. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., any mechanism by which the movement of the substrate downwardly along a pin or a shaft effects the inward movement of the radially movable noses) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). However, it is noted the features are recited in claim 45 and a new ground of rejection has been made.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

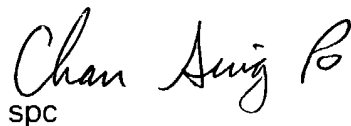
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sing P Chan whose telephone number is 571-272-1225.

Art Unit: 1734

The examiner can normally be reached on Monday-Friday 7:30AM-11:15AM and 12:15PM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


spc


RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700